

WHAT IS CLAIMED IS:

1. A monitoring unit (5) for monitoring a first control value (I_{nom}) for overshooting or undershooting of a threshold value (I_{max}), with the first control value (I_{nom}) being used for controlling an apparatus (3); having:

determination means (10, 20, 30, 40, 45) for determining the threshold value (I_{max}) from an instantaneous value (I_s) of the first control value (I_{nom}) when the apparatus (3) reaches a predetermined operating state, and

monitoring means (50, 60) for monitoring the first control value (I_{nom}) for overshooting or undershooting of the determined threshold value (I_{max}) after the apparatus (3) has reached the predetermined operating state.

2. The monitoring unit (5) as claimed in claim 1, wherein the determination means (10, 20, 30, 40, 45) has a first identification means (20) for monitoring an operating parameter (N_{nom}) of the apparatus (3) for identification of the predetermined operating state of the apparatus (3).

3. The monitoring unit (5) as claimed in claim 2, wherein the first identification means (20) has a comparator (20) for comparing a predetermined value (N_{nom}) of the operating parameter with a modeled value (MODEL) of the operating parameter, in which case, if the values match, it

is deduced that the apparatus (3) has reached the predetermined operating state.

4. The monitoring unit (5) as claimed in claim 2, wherein the first identification means (20) has a comparator (20) for comparing a predetermined value (N_{nom}) of the operating parameter with an actual value (N) of the operating parameter, in which case, if the values match, it is deduced that the apparatus (3) has reached the predetermined operating state.

5. The monitoring unit (5) as claimed in claim 1, wherein the determination means (10, 20, 30, 40, 45) has a memory means (40) for storing the instantaneous value (I_s), or a value derived from it, of the first control value (I_{nom}) at the time when the apparatus (3) reaches the predetermined operating state.

6. The monitoring unit (5) as claimed in claim 1, wherein the determination means (10, 20, 30, 40, 45) has a definition means (45) for defining the threshold value (I_{max}) from the instantaneous value (I_s) of the first control value (I_{nom}) when the apparatus (3) reaches the predetermined operating state, and preferably from a permissible discrepancy (ΔI).

7. The monitoring unit (5) as claimed in claim 2, wherein the monitoring means (50, 60) has a second identification means (50) for identifying whether the first control value (I_{nom}), or a value derived from it, is greater than or less than the determined threshold value (I_{max}).

8. The monitoring unit (5) as claimed in claim 7, wherein the monitoring means (50, 60) has a third identification means (60) for identifying whether the first control value (I_{nom}) is greater than or less than the determined threshold value (I_{max}) and whether the apparatus (3) is in the predetermined operating state.

9. The monitoring unit (5) as claimed in claim 8, wherein, when the apparatus (3) is in the predetermined operating state, the third identification means (60) sets a warning signal (LOCK) for the apparatus (3) when the determined threshold value (I_{max}) is overshoot or undershot.

10. A control system for an actuator (3), having:
a regulator (1) which receives, as input variables, a nominal value (N_{nom}) of an operating parameter for the actuator (3), and an actual value (N) of the operating parameter from the actuator (3), and which supplies, as its output, a first control value (I_{nom}) for the actuator (3),

characterized by a monitoring unit (5) for monitoring the first control value (I_{nom}) for overshooting or undershooting of a threshold value (I_{max}), in which case the monitoring unit (5) has:

determination means (10, 20, 30, 40, 45) for determining the threshold value (I_{max}) from an instantaneous value (I_s) of the first control value (I_{nom}) on reaching a predetermined operating state, and

monitoring means (50, 60) for monitoring the first control value (I_{nom}) for overshooting or undershooting of the determined threshold value (I_{max}) after the actuator (3) has reached the predetermined operating state,

in which case the determination means (10, 20, 30, 40, 45) has a first identification means (20) for monitoring the nominal value (N_{nom}) of the operating parameter of the actuator (3) for identification of the predetermined operating state of the actuator (3), and
if the first control value (I_{nom}) overshoots or undershoots the determined threshold value (I_{max}), the monitoring unit (5) locks the actuator (3) (LOCK) when said actuator (3) reaches the predetermined operating state.

11. A transport device, preferably in an aircraft, having an actuator (3) and a control system as claimed in claim 10.

12. A method for monitoring a first control value (I_{nom}) for overshooting or undershooting of a threshold value (I_{max}), with the first control value (I_{nom}) being used for controlling an apparatus (3); having the following steps:

a) determination of the threshold value (I_{max}) from instantaneous value (I_s) of the first control value (I_{nom}) when the apparatus (3) reaches a predetermined operating state, and

b) monitoring the first control value (I_{nom}) for overshooting or undershooting of the determined threshold value (I_{max}) when the apparatus (3) reaches the predetermined operating state.